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Substitute for form 1449A-B/PTO	Complete if Known,		
	Application Number	herewith 10/677,426	
INFORMATION DISCLOSURE	Filing Date	Oct ber 1, 2003	
STATEMENT BY APPLICANT	First Named Inventor	Messing, Robert O.	
	Group Art Unit	Unassigned	
	Examiner Name	Unassigned	
(use as many sheets as necessary)	Attorney Docket Number	316E-000112US	
	Date Submitted	October 1, 2003	

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Examiner Initials	Cite No.	Number	Kind Code (if known)	Cited Document	Cited Document MM-DD-YYYY	Where Belevant Passages or Relevant Figures Appeal
kr	1	4,656,177		Sunshine, et al.	04/1987	514/264
m	2	5,840,731		Mayer, et al.	11/1998	514/289
Jer-	3	6,376,467	1	Messing, et al.	04/2002	514/15
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				FOREIGN	N PATENT DOCUMEN	TS		
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	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS								
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^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sub	stitute for form 1449	√PTO	Complete if Known			
			Application Number	10/039,278 herewith 10/677,426		
IN	FORMATION	DISCLOSURE	Filing Date	January 4, 2002 October 1, 2003		
ST	ATEMENT B	Y APPLICANT	First Named Inventor	Messing		
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		U.S. Patent	Document		D. (D.1) . (C.)	(Jc
Examiner Initials*	Cite No.1	Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	
RL	Pl	5,141,957		Jiang et al.	08-25-1992	Kin
kr	P2	5,204,370		Jiang et al.	04-20-1993	50
P21	P3	5,216,014		Jiang et al.	06-01-1993	514
Jan .	P4	5,270,310		Bell et al.	12-14-1993	517
kr.	P5	5,292,737		Defauw	03-08-1994	514
SV.	P6	5,344,841		Jiang et al.	09-06-1994	517
M/	P7	5,360,818		Jiang et al.	11-01-1994	517
AT.	P8	5,432,198		Jagdmann, Jr.	07-11-1995	514
gre	P9	5,519,003		Mochly-Rosen et al.	05-21-1996	574
m/	PIO	5,565,454		Cincotta	10-15-1996	514
*~	P11	5,716,968		Driedger et al.	02-10-1998	517
M M	P12	5,783,405		Mochly-Rosen et al.	07-21-19*98	43
201	P13	5,800,385		Demopulus et al.	09-01-1998	7604
ght	P14	5,919,826		Caruso	07-06-1999	514

FOREIGN PATENT DOCUMENTS								1
	Cite No.				Date of Publication	,	1, ,	
	No.	Office		Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	of Cited Document MM-DD-YYYY	T ⁶	Cl-55/52
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Sut	Substitute for form 1449A/PTO				Complete if Known			
				Application Number	-09/347,370	10 versity 10/677,426		
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	,	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	-
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
pr	Di	Ahlgren et al., "Increased Responsiveness of Sensory Neurons in the Saphenous Nerve of the Streptozotocin-Diabetic Rat," <u>Journal of Neurophysiology</u> , 68(6):2077-2085, (1992)	
M	D2	Ahlgren et al., "Mechanical Hyperalgesia in Streptozotocin-Diabetic Rats," Neuroscience, 52(4):1049-1055, (1993)	
M	D3	Ahlgren et al., "Protein Kinase C Inhibitors Decrease Hyperalgesia and C-Piber Hyperexcitability in the Streptozotocin-Diabetic Rat," J. Neurophysiol., 72(2):684-692, (1994)	
In	D4	Aley et al., *Different Mechanisms Mediate Development and Expression of Tolerance and Dependence for Peripheral μ-Qpioid Antinociception in Rat,* The Journal of Neuroscience, 17(20):8018-8023, (1997)	
M	D5	Aley et al., "Vincristine Hyperalgesia in the Rat: A Model of Painful Vincristine Neuropathy in Humans," Neuroscience, 73(1):259-265, (1996)	
JRA.	D6	Baccaglini et al., "Some rat sensory neurons in culture express characteristics of differentiated pain sensory cells," Proc. Natl. Acad. Sci. USA , 80:594-598, (1983)	
Ju	D7	Berra et al., "Protein Kinase C ξ Isoform is Critical for Mitogenic Signal Transduction," Cell, 74:555-563, (1993)	
Jel.	D8	Bjorkman, "Central antinociceptive effects of non-steroidal anti-inflammatory drugs and paracetamol," Acta Anaesthesiol.Scand. , 39(103):2-44, (1995)	
KL	D9	Boland et al., *Inhibition by Bradykinin of Voltage-Activated Barium Current in a Rat Dorsal Root Ganglion Cell Line: Role of Protein Kinase C, * The Journal of Neuroscience, 11(4):1140-1149, (1991)	
R	D10	Cesare et al., "A novel heat-activated current in nociceptive neurons and its sensitization by bradykinin," Proc. Natl. Acad. Sci. USA, 93:15435-15439, (1996)	
PA	D11	Cesare et al., *Specific Involvement of PKC-E in Sensitization of the Neuronal Response to Painful Heat," Neuron, 23:617-624, (1999)	
In	D12	Chakravarthy et al., 'The Direct Measurement of Protein Kinase C (PKC) Activity in Isolated Membranes Using a Selective Peptide Substrate, Analytical Biochemistry, 196:144-150, (1991)	
de	D13	Choi et al., "Effect of adrenergic receptor activation on post-herpetic neuralgia pain and sensory disturbances," Pain , 69:55-63, (1997)	

Jeffrey Billesel

November 16, 2007

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10/677,426

	pl	D14	Coderre et "Intracellular Messengers Contribut. to Persistent Nociception and Hyperalgesia Induced by L-Glutamate and Substance P in the Rat Formalin Pain Model," Eur. J. Neuroscience, 6:1328-1334, (1994)	
	M	D15	Coderre, *Contribution of Protein Kinase C to Central Sensitization and Persistent Pain Following Tissue Injury,* Neuroscience Letters, 140:181-184, (1992)	
	&N	D16	Csukai et al., "The Coatomer Protein β'-COP, a Selective Binding Protein (RACK) for Protein Kinase Ce," J. Biol. Chem., 272(16):29200-29206, (1997)	
	Ar	D17	England et al., *PGE2 modulates the tetrodotoxin-resistant sodium current in neonatal rat dorsal root ganglion neurones via the cyclic AMP-protein kinase A cascade, *Journal of Physiology, 495(2):429-440, (1996)	
	In	D18	Eriksson et al., "Effect of Epinephrine Infusion on Chest Pain in Syndrome X in the Absence of Signs of Myocardial Ischemia," Am. J. Cardiol., 75:241-245, (1995)	
	SU	D19	Ferreira et al., "Interleukin-1ß as a potent hyperalgesic agent antagonized by a tripeptide analogue," Nature, 334:698-700, (1988)	
	SK	D20	Gekeler et al., "Effects of the Selective Bisinddolymaleimide", Br. J. Cancer, Vol. 74, No. 6, pages 897-905, September 1996	
	M	D21	Gold et al., "Co-Expression of Nociceptor Properties in Dorsal Root Ganglion Neurons from the Adult Rat in-vitro," Neuroscience, 71(1):265-275, (1996)	
	XL.	D22	Gold et al., "Hyperalgesic agents increase a tetrodotoxin-resistant Na' current in nociceptors," Proc. Natl. Acad. Sci. USA, 93:1108-1112, (1996)	
	kr	D23	Goodnight et al., "Selective Involvement of Protein Kinase C Isozymes in Differentiation and Neoplastic Transformation," Advances in Cancer Research, 64:159-209, (1994)	
	M	D24	Gruber et al., "Increased Expression of Protein Kinase C∝ Plays a Key Role in Retinoic Acid-induced Melanoma Differentiation," The Journal of Biological Chemistry, 267(19):13356-13360, (1992)	
	Jen	∕D25	Hattori, "Role of Spinal N-type Ca Channel and Protein Kinase C Activities in Modulating Hyperalgesia. Determination of Spinal Amino Acid Release and Pain Related Response," Database Chemical Abstracts Service, AN: 126:5425	
	XI	D26	Hundle et al., "An Inhibitory Fragment Derived from Protein Kinase Ca Prevents Enhancement of Nerve Growth Factor Responses by Ethanol and Phorbol Esters," J. Biol. Chem., 272(23):15028-15035, (1997)	
	M	D27	Hundle et al *Overexpression of ε-Protein Kinase C Enhances Nerve Growth Factor-Induced Phosphorylation of Mitogen-activated Protein Kinases and Neurite Outgrowth, * J. Biol. Chem., 270(50):30134-30140, (1995)	· · · · · · · · · · · · · · · · · · ·
	k	D28	Johannes et al., *PKCu Is a Novel, Atypical Member of the Protein Kinase C Family, *The Journal of Biological Chemistry, 269(8):6140-6148, (1994)	
	RL	D29	Johnson et al., "A Protein Kinase C Translocation Inhibitor as an Isozyme-selective Antagonist of Cardiac Function," J. Biol. Chem., 271(40):24962-24966, (1996)	
	8n	D30	Khasar et al., "A Novel Nociceptor Signaling Pathway Revealed in Protein Kinase Ct Mutant Mice," Neuron, 24:253-260, (1999)	
	BR	D31	Khasar et al., "Epinephrine Produces a β-Adrenergic Receptor-Mediated Mechanical Hyperalgesia and In Vitro Sensitization of Rat Nociceptors," J. Neurophysiol., 81(3):1104-1112, (1999)	
_	,	7	CPO TIV 1	

Jeffrey E. Kussel

November 16, 2009

10/677,426

		10/677, 924	
Jan 1	D32	Khasar et : Is There More Than One Prostaglandin. Receptor Subtype Mediating Hyperalgesia in the Rat Hindpaw?, Neuroscience, 64(4):1161-1165, (1995)	
m'	D33	Kinnman et al., "Sensory and Sympathetic Contributions to Nerve Injury-Induced Sensory Abnormalities in the Rat," Neuroscience, 64(3):751-767, (1995)	
M	D34	Kitano et al., "Assay and Purification of Protein Kinase C," Methods in Enzymology, 124(24):349-352, (1986)	
pr !	D35	Lehel et al., "A Chemiluminescent Microtiter Plate Assay for Sensitive Detection of Protein Kinase Activity," <u>Analytical Biochemistry</u> , 244:340-346, (1997)	
Jen "	D36	Leng et al., "Excitation and sensitization of the heat response induced by a phorbol ester in canine visceral polymodal receptors studied in vitro," Neuroscience Letters, 206:13-16, (1996)	
RU	D37	Levine et al., "Noradrenaline hyperalgesia is mediated through interaction with sympathetic postganglionic neurone terminals rather than activation of primary afferent nociceptors," Nature, 323:158-160, (1986)	
m	D38	Lewin et al., "Nerve Growth and Nociception," TINS, 16(9):353-359, (1993)	
AL	D39	Lewin et al., "Nerve Growth Factor-Induced Hyperalgesia in the Neonatal and Adult Rat," J. Neuroscience, 13(5):2136-2148, (1993)	
M	D40	Lin et al., *Generation of PKCe Knockout Mice, *Signal Transduction and Lipid Second Messengers III, p.65, Abstract No. 320, (1998)	
De la	D41	Lin et al., "Inhibition of Primate Spinothalamic Tract Neurons by Spinal Glycine and GABA is Reduced During Central Sensitization," J. Neurophysiol., 76(2):1005-1014, (1996)	
Jel "	D42	Lin et al., "Using Knockout Mice to Study the Role of PKCs in Neuronal Development," Society for Neuroscience, p.594, Abstract No. 240.4, (1997)	
M	D43	Macfarlane et al., "Activation of β -Isozyme of Protein Kinase C (PKC β) Is Necessary and Sufficient for Phorbol Ester-induced Differentiation of HL-60 Promyelocytes," The Journal of Biological Chemistry, 269(6):4327-4331, (1994)	
M	D44	Mao et al., "Increases in Protein Kinase C Gamma Immunoreactivity in the Spinal Cord Dorsal Horn of Rats with Painful Mononeuropathy," Neuroscience Letters, 198(2):75-78, (1995)	
Jel .	D45	Mao, "Excitatory Central Mechanisms of Post-Injury Neuropathic Pain," <u>Database Dissertation Abstracts</u> , AN: 01237083 (1992)	
BL	D46	McGuirk et al., "G-Protein Mediation in Nociceptive Signal Transduction: An Investigation into the Excitatory Action of Bradykinin in a Subpopulation of Cultured Rat Sensory Neurons," Neuroscience, 49(1):117-128, (1992)	
pr	D47	Messing et al., *Chronic Ethanol Exposure Increases Levels of Protein Kinase C δ and ϵ and Protein Kinase C-mediated Phosphorylation in Cultured Neural Cells,* The Journal of Biological Chemistry, 266 (34):23428-23432, (1991)	
M	D48	Messing et al., "Protein Kinase C Participates in Up-Regulation of Dihydropyridine-Sensitive Calcium Channels by Ethanol," <u>Journal of Neurochemistry</u> , 55(4):1383-1389 (1990)	
Je C	049	Munro et al., "Evidence for a Role of Protein Kinase C in the Sustained Activation of Rat Dorsal Horn Neurons Evoked by Cutaneous Mustard Oil Application," Neuroscience Letters, 170:199-202, (1994)	
-			

Jeffrey E. Massel Wovember 16,2004

• -		Niemegee 13 10/677,426	
R.L.	D50	ntiemegger, et al., "Suprofen, A Potent Antagonist of Acetic Acid-Induced Writhing in Rats," Arzneimittelforschung, 25:1505-1509, (1975)	
	D51	Nishizuka *Intracellular Signaling by Hydrolysis of Phospholipids and Activation of Protein Kinase C, *Science, 258:607-614, (1992)	
M	D52	Nishizuka, "Studies and Perspectives of Protein Kinase C," <u>Science</u> , 233:305-312, (1986)	
TRA .	D53	Ohsawa et al., "Modulation of the Formalin-Induced Nociceptive Response by Diabetes: Possible Involvement of Protein Kinase C," Brain Research, 803:198-203, (1998)	
Sin	D54	Ouseph et al., "Multiple Second Messenger Systems Act Sequentially to Mediate Rolipram-Induced Prolongation of Prostaglandin E2-Induced Mechanical Hyperagesia in the Rat," Neuroscience, 64(3):769-776, (1995)	
P/L	D55	Pitchford et al., "Prostaglandins sensitize nociceptors in cell culture," Neuroscience Letters, 132:105-108, (1991)	
In	D56	Powell et al., "Protein kinase C isozymes ε and α in murine erythroleukemia cells," Proc. Natl. Acad. Sci. USA, 89:147-151, (1992)	
M	D57	Schaap et al., "Expression, Purification, and Characterization", J. Biol. Chem. Vol. 265, No. 13, pages 7301-7307, May 5, 1990	
M	D58	Selbie et al., "Molecular Cloning- and Characterization of PKC1, an Atypical Isoform of Protein Kinase C Derived from Insulin-secreting Cells," The Journal of Biological Chemistry, 268(32):24296-24302, (1993)	
M	D59	Sluka et al., "Capsaicin-induced Sensitization of Primate Spinothalamic Tract Cells is Prevented by a Protein Kinase C Inhibitor," Brain Research, 772:82-86, (1997)	
M	D60	Sluka et al., "The Effects of G-Protein and Protein Kinase Inhibitors on the Behavioral Responses of Rats to Intradermal Injection of Capsaicin," Pain, 71:165-178, (1997)	,
A	D61	Taiwo et al., "Characterization of Distinct Phospholipases Mediating Bradykinin and Noradrenaline Hyperalgesia," Neuroscience, 39(2):523-531, (1990)	
Del	D62	Taiwo et al., *Further Confirmation of the Role of Adenyl Cyclase and of cAMP-Dependent Protein Kinase in Primary Afferent Hyperalgesia," Neuroscience, 44(1):131-135, (1991)	
pr	D63	Takai et al., "Role of Protein Kinase C in Transmembrane Signaling," <u>Journal of Cellular Biochemistry</u> , 29:143-155, (1985)	
BL	D64	Toullec et al., "The Bisindolylmaleimide GF 109203X Is a Potent and Selective Inhibitor of Protein Kinase C," The Journal of Biological Chemistry, 266(24):15771-15781, (1991)	
Jef	D65	Valverde et al., "Molecular cloning and characterization of protein kinase D: A target for diacylglycerol and phorbol esters with a distinctive catalytic domain," Proc. Natl. Acad. Sci. USA, 91:8572-8576, (1994)	
De	D66	Vinegar et al., *Quantitative Comparison of the Analgesic and Anti-Inflammatory Activities of Aspirin, Phenacetin and Acetaminophen in Rodents,* <u>European Journal of Pharmacology</u> , 37:23-30, (1976)	
M	D67	Ward et al., "Relative Involvement of Mu, Kappa and Delta Receptor Mechanisms in Opiate-Mechanisms in Opiate-Mediated Antinociception in Mice," The Journal of Pharmacology and Experimental Therapeutics, 224(3):525-530, (1983)	

Jeffrey E. aussel

Pro November (6, 2004

10/677.426

8u	D68	West et al., ansient Permeabilization Induced Osmo. ally in Membrane Vesicles from Torpedo Electroplax: A Mild Procedure for Trapping Small Molecules," Biochemistry, 19:4418-4423, (1980)
M	D69	Wyngaarden et al., eds. Cecil Textbook of Medicine, 19 th ed. Philadelphia: W.B. Sounders Co. Vol. 2, pages 2244-2245 (1992)
RU	D70	Yashpal et al., "Noxious Thermal and Chemical Stimulation Induce Increases in ³ H-Phorbol 12,13-Dibutyrate Binding in Spinal Cord Dorsal Horn As Well As Persistent Pain and Hyperalgesia, Which is Reduced by Inhibition of Protein Kinase C, J. Neuroscience, 15(5):3263-3272, (1995)

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*EVAMINED.	Initial if reference con-	sidered whether or not o	itation is in conformance with N	MPEP 609 Draw line through citation if no	t in conformance

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